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A New Species of Tuckerella (Acarina: Tuckerellidae) from Nevada[1]

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Tuckerellidae contains only one genus (*Tuckerella*) Womersley with four species and none which are certain to be native to North America, although *ornata* and *pavoniformis* have been collected occasionally (Baker and Pritchard, 1953) in Florida and California. Only adult females were described until Miller (1964) described males, females, nymphs, and larvae for *flabellifera* from Tasmania. Miller also corrected the sex determination of the specimen Womersley (1957) used to describe *spechtae*. It was a male rather than a female. Thus, females are known for *ornata, pavoniformis,* and *flabellifera;* males for *flabellifera* and *spechtae*; and immature stages for *flabellifera.*

This paper will describe females, males, and nymphs of a new species collected from *Coleogyne ramosissima, Atriplex canescens,* and *Atriplex confertifolia* at the U. S. Atomic Energy Commission Nevada Test Site. As near as can be determined, this is the only species known to be a native of North America. A revised key to the adults of all *Tuckerella* is also included.

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Key to the known species of *Tuckerella*

1. Last four palmate setae on dorsal hysterosoma equal or subequal in size.....2
   Last four palmate setae on dorsal hysterosoma with lateral pair larger than medial pair.....4
2. Five pairs of flagellate caudal setae....**ornata** (Tucker)
   Seven pairs of flagellate caudal setae.....3
3. Flagellate setae all equal length, dorsal opisthosomal setae subequal.....**coleogynis** sp. nov.
   Flagellate setae not all equal (third pair from lateral margin shorter), dorsal opisthosomal setae not equal.....**spechtae** Womersley
4. Five pairs of flagellate caudal setae...**flabellifera** Miller
   Six pairs of flagellate caudal setae.....
   .....**pavoniformis** (Ewing)

Tuckerella coleogynis sp. nov.

Female (Fig. 1)—Body semi-oval, sometimes truncate posteriorly; divided with sutures between propodosoma, metapodosoma, and opisthosoma; dorsal integument reticulate with striations within depressions. Two eyes on each side. Four pairs of palmate propodosomal setae, the fourth (posterolateral) being largest and flared out posteriorly. Four pairs of palmate dorsal metapodosomal setae and three pairs of laterals. Seven pairs of palmate dorsal opisthosomal setae (three pairs on anterior margin, four pairs on posterior) and four pairs of laterals. All dorsal opisthosomal setae subequal. Seven pairs of flagellate caudal setae, longer than body, ciliated on proximal end only; one pair of medio-caudal foliaceous setae; all caudal setae arising from tubercles arranged in straight row. Palpus five segmented, the fifth developed into a distinct thumb with stout terminal sensory setae and four additional setae, claw well developed. Legs short and stout with two well developed claws and pulvillus; tenant hairs from base of claws and pulvillus; tarsus I with two sensory rods, the distal rod about twice the length of the proximal; tibia I and tarsus II each with one sensory rod; palmate setae on dorsal surface of legs, some being replaced by foliaceous setae on leg IV. Eight pairs of setae in genito-anal region.

Male (Fig. 2)—Similar to female except dorsal palmate setae on opisthosoma tend to be more pointed and the lateral palmate setae more truncate; single pair of medio-caudal foliaceous setae rather small. Palpus five segmented with distinct

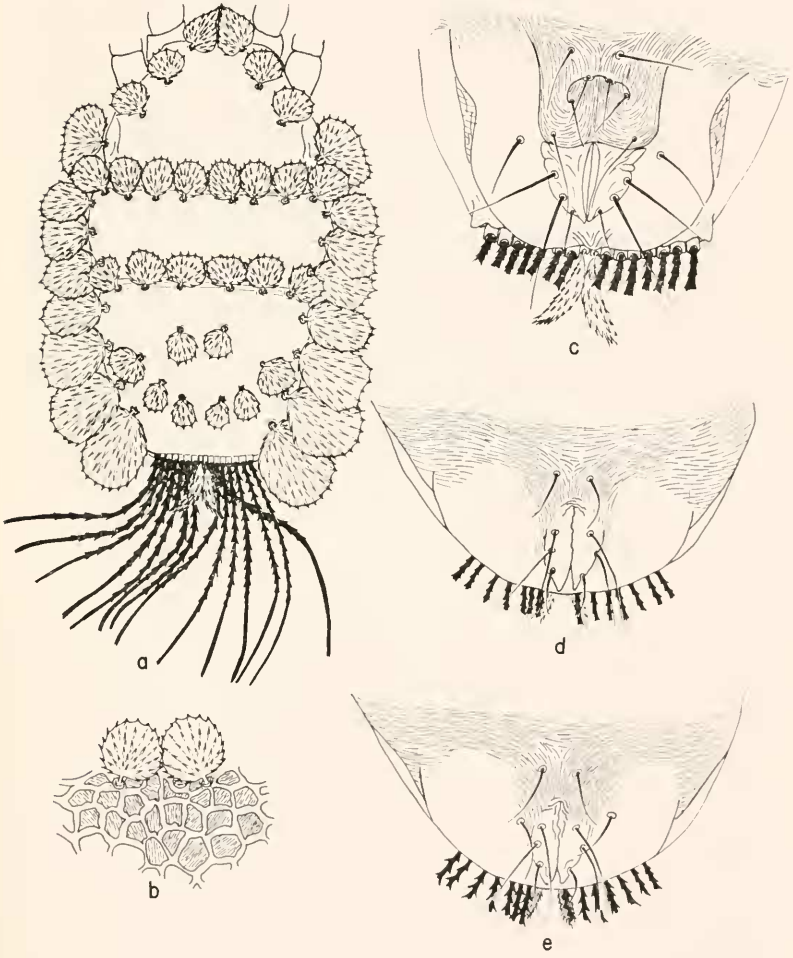

FIG. 1. *Tuckerella coleogynis*: (a) dorsal aspect of the female, (b) texture of the dorsum, (c) ventral opisthosoma of the female, (d) ventral opisthosoma of the protonymph, and (e) ventral opisthosoma of the deutonymph. Flagellate caudal setae are not complete.

thumb and claw, thumb with one stout terminal sensory setae and three additional setae. Tarsus I with two sensory rods subequal in size. Tibia I with a very small sensory rod, tarsus II, III, and IV each with a sensory rod approximately the same size as that on tarsus I. Six pairs of setae in genito-anal region. Aedeagus is short, stout, and curved slightly dorsally.

Protonymph (Fig. 1d)—Dorsal palmate setae similar to those of female. Dorso-lateral setae of propodosoma oval, but all others somewhat lanceolate. Seven pairs of flagellate caudal setae and one pair of medio-caudal foliaceous setae. One sensory rod on tarsus I and II, rod on tarsus I slightly longer than rod on tarsus II. Four pairs of setae in genito-anal region.

Deutonymph (Fig. 1e)—Dorsal palmate setae similar to those of protonymph except dorso-laterals are slightly broader. Two sensory rods on tarsus I, the proximal about one-third as long as the distal. One sensory rod on tarsus II. Five pairs of setae in the genito-anal region.

Tritonymph (Fig. 2b)—Dorsal palmate setae similar to those of the female, except dorso-laterals are somewhat more lanceolate. Caudal setae similar to those of female. Sensory rods on legs similar to those of the deutonymph. Six pairs of setae in the genito-anal region.

Holotype (female) and *Allotype* (male)—the holotype was collected from *Coleogyne ramosissima* at the U. S. Atomic Energy Commission Nevada Test Site, Nye County, Nevada, September 12, 1960. The allotype was collected from debris at the base of *C. ramosissima* on July 10, 1961. These specimens are deposited in the author's collection at Brigham Young University, Provo, Utah.

Paratypes—Three protonymphs, one deutonymph, 31 tritonymphs, 22 females, and 16 males were collected from the Nevada Test Site. All males, all protonymphs, all deutonymphs, 29 tritonymphs, and one female were collected from debris at the base of *C. ramosissima* on July 10, 1961. The females were collected from foliage and debris during winter, spring, and summer. They were collected from *Atriplex confertifolia,* and *Atriplex canescens* in addition to *C. ramosissima.* These speci-

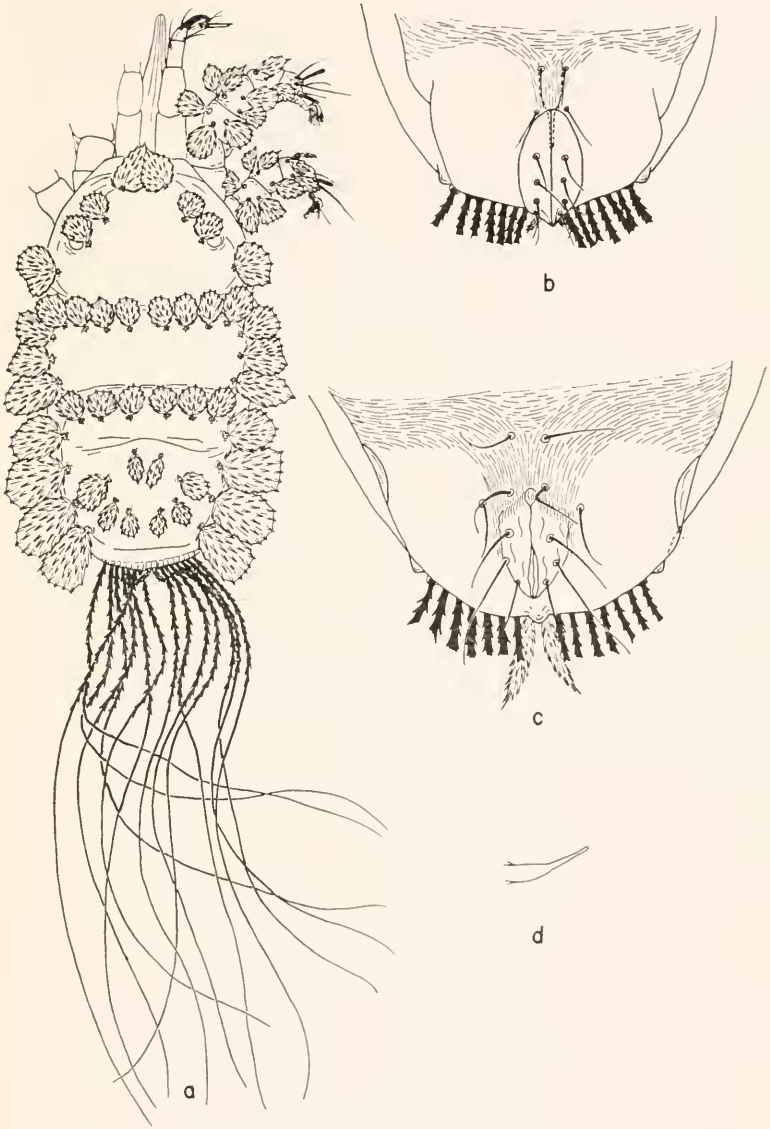

FIG. 2. *Tuckerella colcogynis*: (a) dorsal aspect of the male, (b) ventral opisthosoma of the male, (c) ventral opisthosoma of the tritonymph, and (d) lateral aspect of the aedeagus. Flagellate caudal setae are not complete in 2 (b) and (c).

mens are deposited with the author at Brigham Young University, Provo, Utah.

Diagnosis

Tuckerella coleogynis is most closely related to *T. spechtae,* but differs in the following characteristics: *coleogynis* has all flagellate caudal setae about equal in length and all dorsal opisthosomal setae are subequal; *spechtae* males have the third pair of flagellate caudal setae much shorter than the remainder, and the last four dorsal opisthosomal setae plus the lateral pair on the anterior margin much smaller than the remainder. All immature stages in the life cycle of females can easily be distinguished from the other species by the number (seven) of caudal flagellate setae.

References

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Nomenclature Notice

Possible use of plenary powers by the Commission is announced for the following, the case number being in parenthesis: Hymenoptera: (1689) grant of availability for certain "section" names of de Saussure. Diplopoda: (1785) Validation of emendation to **Polyxenus** of **Pollyxenus** Latreille, 1802–1803. Send comments, with case number, in duplicate to International Commission on Zoological Nomenclature, c/o British Museum (N.H.), Cromwell Road, London S.W. 7, England. (See *Bull. zool. Nomencl.* 24, pt. 1.)